REMARKS

Reconsideration and allowance of this subject application are respectfully requested.

In this third non-final action, the Examiner withdraws the allowed claims and the indication of allowable subject matter and rejects all claims based on previously-applied Petch et al. in view of newly-applied U.S. Patent 6,226,274 to Reese et al. This rejection is respectfully traversed.

Petch teaches a synchronization approach for use in a wireless communications network. A base station clock signal is generated by an internal counter employed by base station controller 44 to regulate data frame transmission reception intervals for the base station. A clock circuit 40 produces a 20 megahertz clock signal 42 input to the internal clock. Each base station includes a GPS receiver 48 which delivers a timing pulse 50 transmitted by a GPS satellite once every second. The base station controller 44 determines whether the internal counter needs adjustment based on receipt of the timing pulse related to a series of overlapping timing windows. There is no disclosure or hint of the base station's internal counter being adjusted during only one of odd-numbered time intervals and even-numbered time intervals.

The mobile station 14 includes an adjustable master clock circuit 14 which generates a clock signal 176 when a match is detected between a received n-bit preamble and a stored n-bit preamble pattern. A matched filter circuit 165 produces a timing pulse which corresponds to a known position of the transmitting base station's frame counter.

Each timing pulse 167 is an input to an early/late (E/L) comparator circuit 170, and compared with the expected arrival time based on the timing counter output of the mobile station controller 178. The early/late comparator circuit 170 sends an adjustment signal 171 to the mobile station controller 178 which directly adjusts the timing counter. See column 11, lines 45-column 12, line 43.

The Examiner admits that "Petch does not specifically disclose the base station adjusts during odd-numbered time intervals while the mobile station adjusts during even-numbered time intervals." Petch also does not disclose the base station adjusting its reference timing during even-numbered time intervals while the mobile station adjusts during odd-numbered time intervals. Indeed, Petch never discloses or suggests that it might be desirable to restrict the times when the mobile station changes its reference timing relative to when the base station changes its reference timing.

The Examiner relies upon Reese which teaches a method for adapting time division duplex (TDD) equipment to support a frequency division duplex (FDD) frame structure. The problem addressed by Reese is how to adapt or modify a TDD-based mobile station to support FDD communications when the mobile station "has only has a single radio transceiver 805 (since only one frequency band is used in the TDD frame structure) and, consequently, only a single frequency synthesizer (i.e., VCO 818). Consequently, the user station 801 can not transmit and receive simultaneously." Column 8, lines 50 to 59. Reese's solution to this particular problem is to devise frame structure that includes time slots divided into a first time segment and a second time

segment. A mobile station transmits to the base station in the first time segment of a time slot, and the base station transmits in the second time segment of the time slot. In this way, the base and mobile stations do not transmit simultaneously. The Examiner relies on column 15, lines 6-25 in which a controller "selects the base station transmission frequency band 520 for the even time slots 505 and 506 and the user transmit frequency band 521 for the odd time slots 505 and 506." The Examiner concludes that:

> it would have been obvious to one skilled in the art at the time the invention was made to have Petch modified by Reese in order to allow different users [sic] transmit simultaneously on the same frequency without interference with one another.

The Examiner's rationale is faulty. The Examiner purports to modify Petch by Reese to allow the base station and the mobile station to transmit simultaneously over the same frequency without interfering. First, as the quote above from Reese makes clear, Reese does not teach the mobile station and the base station transmitting simultaneously on the same frequency. The mobile and base stations transmit on different frequency bands 521 and 520, respectively. Second, even if the Examiner were correct, the independent claims are not directed to allowing a mobile station and a base station to transmit simultaneously over the same frequency without interference. The independent claims are directed to when reference timings (claims 1 and 5), frame number counters (claims 8, 11, 13, and 16), and timers (claims 18 and 20) can be adjusted. Reese is silent on the issue of adjusting mobile station or base station reference times or clocks. In short, Reese does not remedy Petch's deficiencies.

Neither Petch (by the Examiner's own admission) nor Reese teach "effecting a change in a reference timing of the base station only during one or more odd-numbered time intervals using the first reference timing adjustment" or "effecting a change in a reference timing of the mobile station only during one or more even-numbered time intervals using the second reference timing adjustment" (quoted from claim 1). At best, modifying Petch with Reese simply when in a time slot the base station can transmit and the time in a time slot when the mobile user can transmit. Reese says nothing about changing the reference timing of the base station or the reference timing of the mobile station. Nor does Reese ensure that adjusting the base station reference timing occurs during time intervals different from when the mobile station reference timing is changed.

The problem confronted by the inventor must be considered in determining whether it would have been obvious to combine references in order to solve that problem. *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931 (Fed. Cir. 1990). Here, the problem confronted by the inventor is the situation where one or base stations as well as a mobile station adjust their respective timing mechanisms at the same time. The result is a risk that the mobile station adjusts its timing in one direction, e.g., forward, and the base station adjust its timing in the opposite direction, e.g., backward. Thus, the total timing adjustment and its degrading effect on the quality of the received signal at both the base station and the mobile station significantly increase when the time adjustments move in opposite directions.

This problem is not identified, addressed, or resolved in either Petch or Reese. In contrast, the claims of the instant application avoid this degradation in signal quality by ensuring that the base station and the mobile station do not adjust their timer or clock at the same time.

The combination of Petch and Reese as proposed by the Examiner fails to teach all of the features recited in the independent claims. The fact that neither reference confronts the problem confronted by the instant application directly undermines the attempted combination of these two references under longstanding Federal Circuit (e.g., *Northern Telecom)* and CCPA case law (e.g., *In re Sponnoble,* 160 USPQ 237, 243 (CCPA 1969)).

The application is now in condition for allowance. An early notice to this effect is earnestly solicited.

Respectfully submitted,

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